



*These images show the existing view looking south from Old US 31 (right) and the proposed view from approximately the same vantage point (above). In the long term, Old US 31 is proposed to become a boulevard condition with local access lanes on each side. The local access lanes, which can be built early on and largely outside of the state DOT right-of-way, permit slower local traffic, convenient on-street diagonal parking, and comfortable sidewalk conditions. This enables the design to dove-tail a walkable neighborhood into an automobile-oriented highway. The local access lanes are then lined with commercial land uses that can cater to the regional traffic on US 31. The image shows a corner plaza lined with a restaurant and a cafe. To the right is a new neighborhood street that leads south towards a major employment center and high tech business park in the distance.*



# LEMON CREEK CENTER

Historically, development has always followed transportation routes and especially intersections, where activity is busiest. Downtown Berrien Springs is located where the ferry once stopped. Apple Valley Market sits where the highway meets Andrews University. The area surrounding the interchange of Old US 31 (M-139) and US 31 is attractive to entrepreneurs because business needs customers and employees, and traffic connects these. Some businesses have already located here, although development has been limited partly due to the lack of wastewater services.

# Lemon Creek Center: A Gateway Neighborhood

This proposal suggests that highway-based development need not be place-less suburban sprawl or a visual clutter of strip development. Of course, sign ordinances and other zoning tools can help to make an automobile-oriented environment more attractive. However, should wastewater service be provided, under the existing zoning ordinance, the area near this interchange is almost certainly to develop as a relatively generic area of highway motels, business parks, and strip development. Considering the necessary public investment in infrastructure, this seems like a missed opportunity, especially because automobile-based development does not tend to perform well in terms of tax revenue per acre. Beyond this, the community would end up just like any other highway interchange with not particular competitive advantage or sense of place to promote broadly profitable tourism or entrepreneurship. Instead, this project proposes that the area can be developed as a walkable, mixed-use, and relatively compact neighborhood center anchored by an integrated high tech business campus or similar major employment center. Such development yields a significantly higher return on infrastructure invested, serves as a genuine opportunity for quality housing in the community, offers an attractive location for new businesses including major employers and high tech businesses, establishes a strong sense of place to promote tourism, and captures significant development to protect farmland beyond.

## PROPOSED COMMERCIAL DISTRIBUTION



- High Tech Business Park
- Additional Commercial Space
- Business Incubators
- Live/Work Opportunity
- High Tech / Light Industrial
- Hotel

*This diagram illustrates how commercial uses are proposed to be distributed. This is a hypothetical distribution and land uses could easily be readjusted to include more commercial space as the market warrants it.*

## PROPOSED RESIDENTIAL DISTRIBUTION



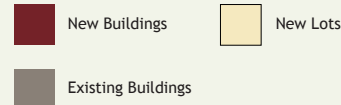
- Apartments Above Commercial
- Townhouses/Attached Single Family
- Apartment Buildings
- Live/Work
- Detached Single Family
- Senior Housing

*This diagram illustrates how a broad range of residential uses can be mixed within the site. In general, density is highest towards Old US 31, with apartments and attached single family units. Most detached single family lots are located at the site perimeter and within the woodlands.*



# Lemon Creek Center: Phasing

Implementation can occur in phases, as market conditions warrant and property owners are willing. Here is a hypothetical sequence:



## NEAR-TERM

The first phase includes the construction of a major employment center, such as high tech businesses, near US 31. This helps to lay a solid economic foundation for the neighborhood and community.



## MID-TERM

The second phase includes the completion of a mixed-use neighborhood square and the development along Old US 31, including its proposed local access lanes, a hotel, and other commercial uses.



## LONG-TERM

The third phase includes the completion of development on the south side of the property and the gradual redevelopment or infill on Lemon Creek Road. Also a light industrial center at the airport.



## COMPLETE

The final phase includes a broad range of residential lots but also commercial development to the north of Old US 31, which is largely owned by Andrews University.

### EXISTING SITE PLAN KEY:

- 1 Bob Cooper Automotive
- 2 BP Gas Station
- 3 Korean Seventh-day Adventist Church
- 4 Andrews University
- 5 Timber Ridge Manor
- 6 Highway US 31
- 7 Old US 31 / M-139
- 8 Lemon Creek Road
- 9 Campbell Drive
- 10 Valley View Drive
- 11 Lemon Creek



This project was tentatively named Lemon Creek Center because it is located on Lemon Creek and Lemon Creek Road. Real places should be named for real things, and this neighborhood plan seeks to respect and build upon the natural and man-made assets that exist already. To the south of Old US 31, the existing site gradually slopes and drains south towards Lemon Creek. To the north, the rolling and wooded terrain is bound by the creek and residential properties on Valley View Drive on the east side.

The western boundary of the 130 acre site is entirely defined by highway US 31. Towards the east, the heart of Andrews University is about a ten minute walk away, although few trails and no sidewalks exist at this time. Residents of the local retirement home (Timber Ridge Manor) to the north are frequently seen on wheelchairs navigating past traffic, even though the infrastructure is not intended for pedestrians. Much of the site is undeveloped, but some businesses and an active Seventh-day Adventist church exist along Old US 31. Lemon Creek Road, which includes a number of dwellings parallel to the creek, terminates into the east side of US 31.





The image on the opposite page shows the existing conditions in the study area and should be compared to the illustrative plan on this page. Illustrative plans represent a kind of long-term vision and should be understood in that sense. As work begins on such a project, the details of the proposal would naturally change in response to unforeseen and changing circumstances. This illustrative plan seeks to demonstrate how a challenging environment can be transformed into an opportunity by plugging into the existing assets and strengths of the place.

This plan is designed to sensitively introduce neighborhood infrastructure onto the land. The rolling land to the north includes winding streets that work with the existing topography to limit cut-and-fill and to naturally drain the site to promote local infiltration. The flatter land to the south includes a more rectangular grid that is shifted to shape important views and to dovetail into Lemon Creek Road.

What is currently thought of as a site by the highway is transformed into a diverse environment. Neighborhoods that blend into wooded areas, surround public squares, and face pleasant streets. The only part of the project that is deliberately oriented towards highway US-31 are larger office buildings and similar businesses. They in turn blend right into the neighborhood, thereby buffering all other uses from the presence of the highway. To the south, a small light industrial business park has been located near the Andrews University airport.

ILLUSTRATIVE SITE PLAN KEY:

- |                                       |                           |   |
|---------------------------------------|---------------------------|---|
| 1 BP Gas Station                      | 6 Hotel                   | 11 Highway US 31                        |
| 2 Korean Seventh-day Adventist Church | 7 Airport Business Center | 12 Saint Joseph Avenue (Old US 31/M139) |
| 3 Andrews University                  | 8 Community Gardens       | 13 Lemon Creek                          |
| 4 TimberRidge Manor                   | 9 Community Square        | 14 Campbell Drive                       |
| 5 Corporate Offices and Parking       | 10 Lemon Creek Park       | 15 Valley View Drive                    |



## Lemon Creek Center

One reason that this site has so much development potential is because it is simultaneously located next to a major highway and almost immediately adjacent to Andrews University. Conventional suburban development patterns are unlikely to take full advantage of this, but a compact, walkable, mixed-use pattern can.

If wastewater service were to be provided in the future, this site becomes attractive to major employers and high tech businesses who seek a well-connected location within the region. Locating such businesses within the community has obvious benefits. Locating such businesses on this particular site means that the community's two largest employment centers would be within actual walking distance of the site. The presence of M-139 and the interchange means that neighborhood retail could be viable on this site. The case for a compact, walkable neighborhood fabric could hardly be stronger, especially because such development could provide a much higher return on infrastructure investment. With appropriate zoning measures, such development could also provide a strong sense of place as a first introduction to travelers.

The bird's eye view to the right shows how a walkable neighborhood fabric can co-exist with a highway and large business buildings. Commercial blocks feature shop-fronts on the sidewalk and additional parking mid-block. The Andrews Korean Seventh-day Adventist church has been preserved as a neighborhood landmark.

*These images show an existing bird's eye view looking southwest (right) and the proposed development (below). Clearly visible in the foreground is the modified section of Old US 31 (M-139) and its commercial frontages. Lining Highway US 31 is a major employment center in the form of high tech businesses. These buildings buffer the neighborhood from the highway but also enjoy great highway visibility. Their large parking areas can be seen between the highway and the office buildings.*







## Lemon Creek Center

These two images show the existing view looking west in the fields south of Old US 31 (right) and a proposed view from approximately the same vantage point. The proposed illustration shows a high tech office complex fronting a public square. The complex, illustrated in white, has been designed with multiple smaller buildings. This is partly to shape buildings that are complimentary to a neighborhood scale, and partly to allow the buildings to be phased in over time and to enable long-term flexibility. The buildings have been positioned to buffer the neighborhood from the highway beyond.



The public square is intended to give the office buildings an attractive and prestigious address within the community, partly to attract quality employers. The square also features attached townhouses, some of which can be seen on the left. This integrated relationship between employment, dwelling, and commercial activity is becoming increasingly attractive for businesses seeking to retain quality staff, provide for convenient lunch opportunities, and maintain meaningful community relations. The presence of nearby housing also enables some employees to walk to work. Eddy Street Commons and the immediately adjacent Innovation Park at Notre Dame is a local successful example of such a development model in nearby South Bend, Indiana. The square is also designed to double as an attractive stormwater management device. It includes a landscaped retention basin that is part of a larger network of Light Imprint stormwater conveyance, detention, and infiltration areas. The square is also available for outdoor community events and helps to shape a sense of place within a new community by the highway.

The architecture of Lemon Creek Center has been deliberately designed to echo historical forms and proportions but with contemporary detailing and components. This is only a hypothetical recommendation that may be attractive to progressive employers and businesses, but other architectural styles could certainly be employed instead.





*These two images show the existing view looking south at the Andrews Korean Seventh-day Adventist Church from the site's northern half (left) and the proposed view of approximately the same area (above).*

*The proposed view includes detached single-family homes that face onto a neighborhood green, which runs east towards the Lemon Creek valley. The residential lots are serviced by rear lanes, which keeps garage doors away from the fronts and helps to use land more efficiently. The green includes a small community garden. Careful development of detached homes can help to preserve existing trees that currently dominate this area.*

## Lemon Creek Center



# Lemon Creek Center: Careful Street Infrastructure

Lemon Creek Center has been designed to take maximum advantage of existing and proposed infrastructure. Conventional suburban development patterns, which would likely prevail under the existing zoning ordinance, would not effectively leverage the relatively large public investment necessary to provide wastewater service and improved road transportation. In today's economy, it is not prudent to spend significant sums on a new sewer line to connect only a handful of future strip offices and retailers. This neighborhood plan could easily accommodate more than 1500 diverse dwelling units and 400,000 sq ft of commercial space if necessary, although market conditions may not warrant this and this is not necessarily recommended. Neighborhood plans are fundamentally flexible to adjust land use and density as market conditions demand: the same grid in central Saint Joseph today features fundamentally different land uses and densities compared to a century ago, and yet it remains the same grid, similar infrastructure, and equally lovable and prosperous place. Such flexibility is important because it allows development to adapt to different market conditions over time.

This flexibility is possible because complete neighborhood streets are fundamentally places first, defined by buildings that are relatively close to the sidewalk and front onto them as complimentary facades. These buildings and streets are designed for the human scale and walking, providing shade and comfort with trees, and are well-connected to the rest of the neighborhood. The street environment adds value to each house because it is memorable, greater than the sum of its parts. Streets are not roadways. They are complete environments. Their design can also help to naturally convey and locally infiltrate stormwater. This helps to preserve water quality and can reduce the extent of conventional inlet-and-pipe systems, which saves costs.

All of this requires a different approach towards zoning, planning, and development. Targeting long-term value means thinking differently about short-term gains. This type of development is not the easiest, partly because our regulatory system and real estate habits are designed to enable different development patterns. But this type of development is possible and likely represents a preferred long-term outcome, for fiscal, social, and environmental reasons. Fortunately, the Oronoko Township Master Plan recommends the use of Form-based Codes to achieve master plan objectives. A Form-based Code is one tool that can help to facilitate this type of project.



*Existing view of Old US 31 looking east from the bypass interchange.*

## PROPOSED SECTION OF OLD US 31 (M-139)



*Proposed section of modified Old US 31 with local access lanes.*

## QUALITY PUBLIC SPACE



*This diagram illustrates the location of open space and public space. The network of streets, parks, squares, and plazas has been designed to help drain the site more naturally, which limits stormwater pollution and inlet-and-pipe infrastructure.*



## MASTERPLAN GOALS

*A summary of principles and goals from that were responded to through the design process.*

### Preserve rural land by building compact places.

Residential Lot sizes from 30-80' wide and Commercial lots with 0' setbacks ranging in size from 2000sqft to 12,000 sqft increase density and create a place where greater lot coverage is desirable.

*In keeping with the Masterplan: Goals 1, 5, & 11*

### Mix uses for variety and flexibility.

The proposal suggests a way of approaching zoning that is not based on use but on the form of buildings that upholds a high quality of public space. This allows for a greater variety of use and avoids down zoning of lots from commercial to residential.

*In keeping with the Masterplan: Goals 4, 8*

### Make places walkable.

Aspects of this plan that encourage walkability include a dense street network and a wide variety of activities located within a five minute walk. It also includes pedestrian connections to AU and nearby neighborhoods.

*In keeping with the Masterplan: Goals 9, 10*

### Build quality places for both commercial and residential use.

Space has been reserved for parks and urban civic greens. Frontages of buildings and walkable, comfortable streets also add to the design making the place attractive and live-able to visitors and residents.

*In keeping with the Masterplan: Goals 7, 12*

## ZONING CHALLENGES

### Lot Metrics Challenges:

The lot requirements including lot area, lot width, lot coverage percentages, and setback requirements used in this plan are not possible using current zoning regulations. This proposal allows for smaller lots, lot widths and setbacks with larger lot coverage percentages.

Residential Lot sizes from 30-80' wide and commercial lots with 0' setbacks ranging in size from 2000 sqft to 12,000 sqft increase density and create a place where greater lot coverage is desirable.

*Refer to Township Zoning Ordinance: Articles 6-13*

Existing zoning allows for 90' minimum lot widths and 45% maximum lot coverage. This does not enhance the goals of the Masterplan because it does not allow for density and promotes inefficient residential development subdivisions. This plan offers a different option for future development that both preserves rural land and offers attractive and efficient options for commercial and residential development.

### Mix of Uses Challenges:

Mixed Use buildings are only allowed as a contained development within commercial zones. This proposal allows for a diversity of uses both within lots and in adjoining lot uses. The definition of mixed use that this proposal uses does not conform to current land use zoning.

*Refer to Township Zoning Ordinance: Articles 18.23, 11.03, 3.18*

There are several benefits in allowing for a mix of uses. One is the market stability that many options can bring; by offering many different choices a plan has a greater opportunity to succeed through different market changes. Another benefit is the vibrancy that a mix of uses can bring to a street or neighborhood. This activity could create an atmosphere that is attractive to visitors and may bring people from around the region to this location for commercial and social activities. Through offering mixed use options stakeholders don't have to worry about their land being down-zoned from commercial to residential.

## EXISTING & PROPOSED BIRD'S EYE OF LEMON CREEK CENTER



# Lemon Creek Center: Zoning

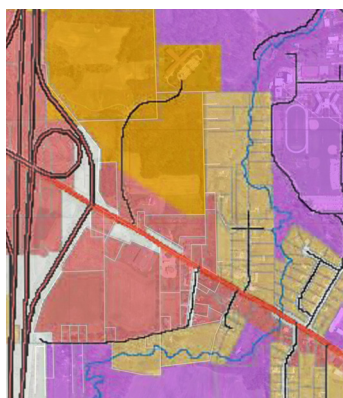
## Walkability Challenges:

Pedestrian connections and walkability are important aspects of the Masterplan but are not specifically provided for in the Zoning Ordinance. Some current zoning regulations will create difficulties for future development to occur in the manner suggested by this plan. Areas where standards of good walkability are not encouraged through current zoning include: Density, Landscaping, and Streets and Alleys

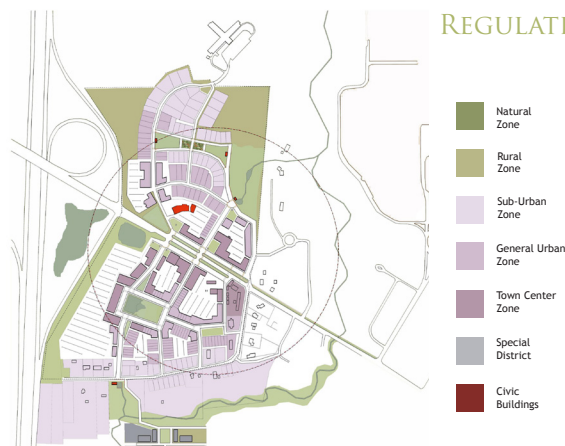
*Refer to Township Zoning Ordinance: Density: Articles 6-13, Landscaping: 3.14, Streets and Alleys, 5.04*

Making places walkable is a comprehensive approach that not only offers the opportunity and ability for people to walk throughout their community through sidewalks and crosswalks, but also makes it likely for people to walk. This can be made possible through making streets friendly and safe by encouraging pedestrian friendly building frontages and by reducing vehicular traffic speed by placing buildings close to the street. Another way to make streets more pedestrian friendly is to use buildings to create an outdoor room in the street that makes pedestrians feel safe and enclosed. Offering destinations for people to walk to such as parks or stores could also encourage pedestrian activity.

EXISTING ZONING MAP



REGULATING PLAN



## ZONING RECOMMENDATIONS

### Solution 1 - Optional Overlay Zone:

A way to reinforce current zoning and more effectively execute the intent of the Masterplan would be to institute an optional overlay zone. An overlay zone is a regulating tool that is designed to produce a specific effect for a localized area by offering alternate zoning options that enhance existing zoning.

Examples of uses for this zoning tool are to preserve architectural character in historic districts, protect delicate natural environments or to encourage specific types of economic development.

An overlay zone would offer an optional set of zoning regulations (such as a Transect-based Form-based Code) that would enable Oronoko Township to achieve its goals for compact neighborhood development on this site and therefore preserve other areas of the township for agricultural and natural use. See appendix for more information.

### Solution 2 - Mandatory Overlay Zone:

Because future infrastructure such as sewer and water systems may soon be implemented on this site it is important for the township to carefully plan potential development. An optional overlay zone could act as an implementation tool for a set period of time and then be adopted as a mandatory special zoning district. This would allow the Township to more closely monitor the development of this area and possibly achieve a more complete result. A mandatory overlay zone could also offer predictability to the built environment that stakeholders may appreciate.

An overlay zone would be especially calibrated to this area through research and public discussion and then adopted to the current zoning ordinance.

### Solution 3 - Planned Unit Development:

Another option for implementation of this plan would be through a large scale private development facilitated through a planned unit development. A planned unit development is a special area of the zoning ordinance that relaxes many regulations to allow developers to be innovative and economic. This plan follows the requirements of PUDs in the Zoning Ordinance by making economic use of space, using a parcel of land larger than 10 acres, providing common open spaces and recreation areas, providing landscaping and a pleasant pedestrian environment.

The largest difficulty in using a PUD to implement this plan is the large amount of commercial buildings that drive the scheme. In a PUD buildings that are primarily commercial in use may not be built until 70% of residential units are built. Therefore a PUD could be more beneficial for the North half of the site where residential may be the primary building type.

Adjustments could be made to the zoning regulations for PUDs in Oronoko Township to make this development possible. This may include allowing different stakeholders to join together and form the PUD and incentivizing for commercial investments along with residential developments.